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Brief Reports

Childhood trauma and life history strategies - the moderating role of childhood socio-economic status and the dark triad traits

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ABSTRACT

We investigated the potential link between childhood trauma and life history strategies, considering subclinical psychopathy, Machiavellianism, subclinical narcissism, and childhood socioeconomic status as potential moderators. Two hundred seventy participants (M_{age} = 20.45, SD = 4.20) completed the Childhood Trauma Questionnaire, the Short Dark Triad measure, the High-K Strategy Scale, and the childhood socioeconomic status brief questions. Participants who reported being subjected to high levels of trauma, emotional abuse, physical abuse, and/or emotional neglect during childhood also reported more characteristics resembling fast life history strategies and/or low childhood socioeconomic status. Subclinical narcissism was the only Dark Triad trait which shown a statistically significant relationship with life history strategies, being negatively correlated with fast life history strategies. However, out of the proposed moderators, only subclinical psychopathy moderated the relationship between self-reported childhood trauma and fast life history strategies by strengthening their relationship, albeit it was not associated with life history strategies. Self-reported childhood socioeconomic status was negatively associated with fast life history strategies, but its moderating effect was statistically insignificant. These findings underscore the importance of tailoring trauma-targeted assessments and interventions to individual differences in personality and shifting public health, social, and education policies from reactive towards preventative programs for at-risk youth.

People with adverse childhood experiences (ACEs) report intense, disturbing feelings of helplessness, fear, and dissociation, which become overt during adolescence and last for an extended period of time, long enough to impact their functionality (Dye, 2018; van der Kolk, 2003). ACEs are known to increase stress reactivity (McLaughlin et al., 2020). While it might seem detrimental to well-being, stress reactivity can be useful when dealing with real threats (Shirtcliff et al., 2014). This trade-off can be further explored through life history theory (LHT).

LHT examines how different evolutionary pressures lead different species to develop various strategies for balancing the allocation of limited resource among competing functions like survival, growth, and reproduction (Williams, 1966). Detrimental conditions typically facilitate fast life history strategies (LHSs), manifested by precociality, random mating, future discounting, low parental investment, risk-seeking, lower somatic effort, and selfish behavior, whereas prosperous conditions typically facilitate slow LHSs, reflected in altriciality, selective mating, future orientation, high parental investment, risk-avoidance, higher somatic effort, and altruism (Figueredo et al., 2006). It is thought that detrimental conditions can shift focus from self-preservation towards reproduction (Belsky, 2019). We can assume that ACEs might signal to some differentially susceptible individuals that fast LHSs could increase their chances of adapting under those conditions by precociously fostering their resource acquisition ability to seek immediate gratification, understanding that time and resources are limited. Thus, we expect individuals who report high levels of childhood trauma (CT) would also report fast LHSs (H_1).

Other elements supporting adaptation are related to household socioeconomic status (SES); low-income earners are more likely to live in disturbing neighborhoods (Conroy et al., 2010) and are more likely to neglect and/or punish their children (Chen & Miller, 2013). As a

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consequence, adults who report having experienced family conflict during childhood have elevated chances of morbidity and mortality (Cohen et al., 2010). This is mainly because their parents have been overwhelmed by multiple competing demands, which rendered them unable, both physically and mentally, to properly invest time and resources in them, leaving them prone to maldevelopment (Chen & Miller, 2013). As such, we expect that those who self-report being exposed to CT and having low SES during childhood may also self-report adopting fast LHSs (H_2).

Among the most important proxies of LHSs are the Dark Triad traits (DTTs; Jonason et al., 2009; Jonason & Tost, 2010). DTTs reflect individual differences in Machiavellianism (e.g., emotional coldness, manipulativeness), subclinical narcissism (SN; e.g., sense of entitlement, grandiosity), and subclinical psychopathy (SP; impulsivity, antisociality, low empathy), which highly resemble fast LHSs (Jonason et al., 2017). SP, in particular, corresponds to an extreme form of fast LH, which temporally discounts long-term alliances, monogamous relationships, and inclusive fitness for short-term, albeit smaller fitness payoffs (Mealey, 1995). Hence, individuals who report being exposed to CT, and high scores of SP, Machiavellianism, and SN could be characterized by fast LHSs (H_3).

1. Method

1.1. Participants and procedure

This study was reviewed and granted approval by the University of Bucharest Institutional Review Board, its scope and protocol aligning with the tenets of the Declaration of Helsinki. Our participants consisted of 270 students (M_{age} = 20.45, SD = 4.20, 220 women) recruited via online ads posted on the university's social media groups. Participants provided their written informed consent to participate voluntarily in the study after carefully reviewing the preamble and GDPR compliance statement, acknowledging that they can withdraw at any time without penalties. All the measures have been administered online using Google Forms. No personally identifiable information was collected. The data was stored securely, only the research team having access to the de-identified dataset. To further ensure anonymity, the data was analyzed in aggregate form, without any individual responses being reported.

1.2. Measures

CT was measured with the short form of the Childhood Trauma Questionnaire (Bernstein et al., 2003), which consists of 25 items, rated on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree), grouped into five dimensions: emotional, physical and sexual abuse, emotional and physical neglect. All the items were averaged to create the index for CT (α = 0.91).

DTTs were assessed using the Short Dark Triad measure (Jones & Paulhus, 2014) consisting of 27 items, nine items for each of Machiavellianism, SN and SP. Each item was rated on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). All the items were averaged to create indexes for Machiavellianism (α = 0.78), SN (α = 0.72), and SP (α = 0.69).

LHSs were assessed using the *High-K Strategy Scale* (Giosan et al., 2018), which consists of 26 items (rated on a five-point Likert scale; 1 = strongly disagree; 5 = strongly agree) referring to several dimensions of fitness, namely health and attractiveness (e.g., "I don't have major medical problems", "I believe people think I am attractive"), upward mobility (e.g., "My training and experience are likely to bring me opportunities for promotion and increased income in the future"), social capital and extended family (e.g., "I meet with my friends regularly", "My second-degree relatives (nephews, cousins, uncles, nieces) are generally healthy"), and consideration of risks (e.g., "The neighborhood where I live is safe"). Items were averaged to obtain an index of life-history strategies (α = 0.86).

Childhood SES (CSES) was measured with established measures (Stamos et al., 2019). Participants were asked to indicate their agreement on a 5-point scale (1 = strongly disagree; 5 = strongly agree): "My family usually had enough money for things when I was growing up," "I grew up in a relatively wealthy neighborhood," and "I felt relatively wealthy compared to the other kids in my school."

2. Results

As expected, individuals who reported more ACEs, including CT, emotional abuse, physical abuse, or emotional neglect, but not sexual abuse, were characterized by fast LHSs (H_1) and/or had a low CSES. The associations between CT and DTTs are shown in Table 1.

To investigate the moderating effect of the DTTs on the relationship between CT and LHSs, a path analysis was performed using *lavaan* (Rosseel, 2012). No moderating effect was found for Machiavellianism and SN. However, we found an interaction between CT and SP (Fig. 1). Further analysis indicated that at low, average and high levels of SP, the conditional effects were − 0.43, −0.35, and − 0.27, respectively (Fig. 2). As such, people who reported being subjected to CT and having higher levels of SP resembled more characteristics of fast LHSs relative to those exposed to CT, but low in SP (H_2). CSES negatively correlated with fast LHSs, but no interaction emerged between CT and CSES (H_2).

3. Discussion

Our data is consistent with existing findings showing that early life conditions play an important role in how people perceive and navigate the world (Figueredo et al., 2006). To our knowledge, this is the first study linking DTTs to the relationship between CT and LHSs. We found that SP interacts synergistically with CT to predict the development of fast LHSs. It was already known that traumatized individuals are more likely to display more psychopathic traits (Farina et al., 2018). SP might incorporate dissociation, egocentrism, and many defense mechanisms which can prepare individuals to cope with perceived environmental challenges at the expense of their well-being. This could mean that traumatized individuals bearing these traits are more likely to display antisocial behaviors, which would likely worsen the effects of trauma by increasing their allostatic load, while simultaneously enhancing their resource acquisition ability by mobilizing their testosterone and cortisol to establish social dominance. Consistent with this interpretation, research suggests that acting dishonest is often linked with negative health outcomes owing specifically to these biomarkers (Brinke et al., 2015).

SN, Machiavellianism, and CSES did not moderate the relationship between CT and LHSs. While the latter two did correlate with CT, and CSES registered the strongest effect size in relation to LHSs among all variables, SN was not related at all to CT, despite being the only DTT significantly associated with LHSs. This is partially contradictory to previous research findings (Palma et al., 2021). It's important to note that the DTTs are strongly influenced by environmental factors, especially Machiavellianism, whose etiology is mainly attributable to shared and non-shared environmental conditions (Veselka et al., 2011). Additionally, in contrast to the lower CSES reported by participants with psychopathic tendencies, those depicting more narcissistic and Machiavellian traits reported a higher and slightly higher CSES, respectively. Have their CSES been worse, similar results to those of participants with high psychopathic traits and low SES could have emerged. Since our sample's reference population resembles many characteristics held by traditional societies, which view goods as being limited (Foster, 1965), this makes a compelling case for why some people with low SES behave the way they typically do. Thus, we consider reasonable to frame SP as a "survival" trait, while viewing SN, and potentially Machiavellianism, as "thriving" traits.

While it may seem reasonable to believe that ACEs can cause psychopathic traits, it's also conceivable that people with ACEs already had

Table 1
Bivariate correlations among all study variables.

		1	2	3	4	5	6	7	8	9	10	11
1	Childhood trauma	–										
2	Emotional abuse	0.81**	–									
3	Physical abuse	0.79**	0.56**	–								
4	Sexual abuse	0.40**	0.20**	0.30**	–							
5	Emotional neglect	0.83**	0.59**	0.45**	0.14*	–						
6	Physical neglect	0.65**	0.34**	0.33**	0.33**	0.55**	–					
7	Machiavellianism	0.13*	0.12*	0.12*	0.04	0.08	0.10	–				
8	Narcissism	−0.09	−0.07	0.01	−0.07	−0.14*	−0.07	0.36**	–			
9	Psychopathy	0.21**	0.16**	0.20**	0.07	0.12*	0.19**	0.48**	0.27**	–		
10	Childhood socioeconomic status	−0.38**	−0.23**	−0.20**	−0.09	−0.39**	−0.42**	0.02	0.24**	−0.09	–	
11	Slow life history strategies	−0.37**	−0.29**	−0.16**	−0.08	−0.41**	−0.29**	−0.01	0.37**	−0.06	0.43**	–

Note.
* $p < .05$;
** $p < .01$;

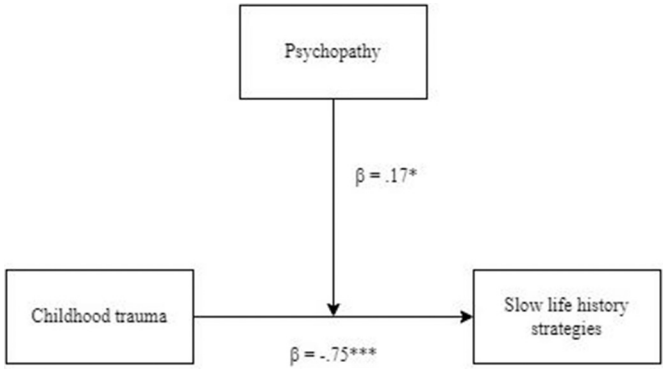

Fig. 1. The moderation of psychopathy on childhood trauma and slow LHSs.

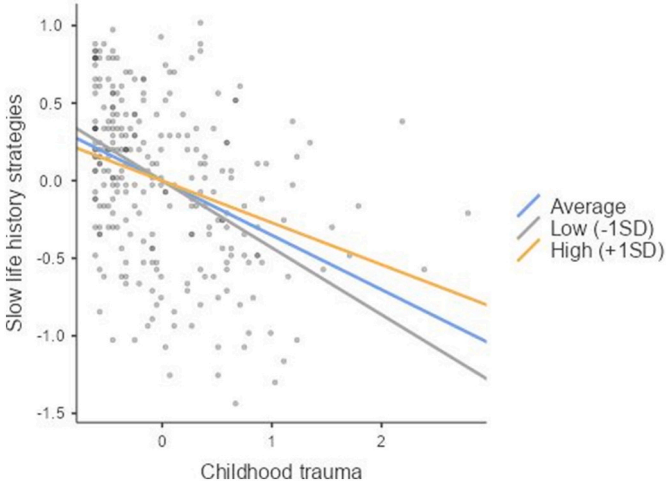

Fig. 2. The conditional effects of the moderator at different levels.

psychopathic traits prior to their ACEs and their ACEs were mere consequences of their problematic child behavior, which might have attracted moral disgust and retribution from those around them. Since the directionality of this relationship is not clear-cut and manipulating it is otherwise practically and ethically unfeasible, we argue that they should be treated independently from one another, since our results suggest that SP only strenghtens CT's relationship with fast LHSs, rather than acting as a mediator. Given that these traits are to some extent genetically determined, they should arguably be treated as exogenous variables outside the influence of ACEs. This is to say that ACEs may actually be the main catalysts of LHSs, and adding antagonistic traits on top would only strenghten that relationship, not provide a mechanism for its emergence.

Furthermore, there is a case to be made that some people with ACEs and low CSES may still develop fast LHSs without necessarily developing typical psychopathic traits, drifting in and out of illegitimate acts as a means of accelerating their upward social mobility (Skyes & Matza, 1957). Conversely, some people with ACEs and low SES might still not resort to illegitimate means whatsoever (Merton, 1938). In other words, psychopathy may not be necessary for developing fast LHSs.

Although we reported some interesting findings, our study is not without limitations. Firstly, we relied on self-report measures, which are susceptible to social desirability bias. Secondly, the fact that we had mostly female participants may affect our study's internal validity, as there are documented sex differences, at least to what concerns SP. Thirdly, the sample consisted of undergraduate students. Thus, our findings cannot be generalized. Most undergraduate students are emerging adults. Early adulthood is marked by novel and formative experiences. Given that LHSs are heavily shaped by environmental cues, and that emerging adults are still malleable to many changes, their LHSs could vary based on how their new experiences unfold (Del Giudice, 2014). This suggests that more fortunate outcomes at this developmental stage, coupled with the adoption and reinforcement of prosocial behaviors, might potentially mitigate the negative impact of ACEs and/or DTTs. Life course research should focus on addressing these limitations by incorporating more heterogenous populations and monitor them using more robust measures, while emphasizing the joint interaction between multiple personality traits, formative experiences, and CSES, as well as adult SES, to better capture how life trajectories unfold. Additionally, the distinction we draw between "survival" and "thriving" traits could offer novel insights for cross-cultural research. Lastly, these results underscore the need for targeted interventions. Mental health professionals working with individuals with ACEs could also tap into their LH approach, which might unexpectedly reveal a heightened risk for antisociality.

In conclusion, our paper highlights the potential function of CT in navigating environmental challenges by developing a fast LHS, SP playing an important moderating role in this adaptation.

CRediT authorship contribution statement

Vlad Burtăverde: Supervision, Project administration, Methodology, Conceptualization, Investigation, Validation, Writing – original draft. **Peter K. Jonason:** Writing – review & editing. **Anca Minulescu:** Conceptualization. **Bogdan Oprea:** Software, Formal analysis, Data curation. **Șerban A. Zanfirescu:** Formal analysis, Software, Data curation. **Ștefan -C. Ionescu:** Writing – review & editing, Formal analysis, Project administration, Validation. **Andreea M. Gheorghe:** Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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